

**IN THE SPECIFICATION**

1. Included with this reply, as an attachment, is a sequence listing, which has been produced using the USPTO software PatentIn 3.3 and verified using the USPTO software Checker. Please amend the specification to include the accompanying sequence listing as an appendix.

2. Please enter amendments to the specification as set out below. In the amendments set out below, footnotes are added to tables in the specification in order to cross-reference sequences in the tables to sequences in the accompanying sequence listing.

Please amend Table 1 on page 13 as follows:

**TABLE 1**

seq	1:
gctactggtaatagcagacgcgcgcggagcgcgaccagtgaaataaaaaacgcgcgcgcacaggagtggccttactataact	
gattac <sup>1</sup>	
seq	2:
cagtaatcggaactccagcgcgcgcaaggagcggtgaggcgaataatgaaaacaggctacgcctgcaaataactaaataactataca	
ttcttac <sup>2</sup>	
seq	3:
acttgatcggttagctagacgcgcgcgaaataattaaacgcgcgcgcacaggtataggccaaccggagaagctccaaaaccgcgcgc	
cgcgtaatcatattac <sup>3</sup>	
seq	4:
caaattgttagggagcgcgcgcgacaggctacgccaaccgcgcgcgaaataactaaaacctccatactatatactattacccaa	
gacgcttatgcaaggctac <sup>4</sup>	
seq	5:
cacgggacgaaagtaattcgtaggggcgcgcgaaataagaaaaacaggctaaggccttccgcgcgcgcgtatgcggcgaat	
ccgagc <sup>5</sup>	

**Footnotes:**

1. sequence id 9 in accompanying sequence listing
2. sequence id 10 in accompanying sequence listing
3. sequence id 11 in accompanying sequence listing
4. sequence id 12 in accompanying sequence listing
5. sequence id 13 in accompanying sequence listing

Please amend Table 2 on page 14 as follows:

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**TABLE 2**

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10	5	cgcgcgcg <sup>6</sup>	_____0 19 0 54 1 17 2 18 2 39 2 83 3 15 3 41 4 27 4 64
5	5	aaataa..aaa	_____0 43 1 71 2 28 3 51 4 37
5	5	acagg..ta.gcc..c	_____0 64 1 55 2 49 3 25 4 48
4	4	tactata....ttac	_____0 80 1 82 2 93 3 69

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Footnotes:

6. sequence id 1 in accompanying sequence listing

Please amend Table 3 on page 14 as follows:

**TABLE 3**

Match-Set as per requirements with k and  $\delta$

<b>Replet</b>	<b>Match-set</b>
cgcgcgcgcg <sup>7</sup>	{<0, 19, 0>, <0, 54, 0>, <1, 17, 0>, <2, 18, 0>, <2, 39, 0>, <2, 83, 0>, <3, 15, 0>, <3, 41, 0>, <4, 27, 0>, <4, 64, 0>}
aaataa..aaa	{<0, 43, 0>, <1, 71, 0>, <2, 28, 0>, <3, 51, 0>, <4, 37, 0>}
acagg..ta.gcc..c	{<0, 64, 0>, <1, 55, 0>, <2, 49, 0>, <3, 25, 0>, <4, 48, 0>}
tactata.....ttac	{<0, 80, 0>, <1, 82, 0>, <2, 93, 0>, <3, 69, 0>}
aa...a...a	{<0, 43, 0>, <1, 71, 0>, <2, 28, 0>, <3, 51, 0>, <4, 37, 0>}
Actata	{<0, 80, 1>, <1, 82, 1>, <2, 93, 1>, <3, 69, 1>}

Footnotes:

7. sequence id 1 in accompanying sequence listing

Please amend Table 4 on page 15 as follows:

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**TABLE 4****Variation Tables**

Replet	Variation Entries
cgcgcgcg <sup>8</sup>	{}
aaataa..aaa	{<0, "aa">, <1, "tg">, <2, "tt">, <3, "ct">, <4, "ga">}
acagg..ta.gcc..c	{<0, "aggtt">, <1, "gcctg">, <2, "tagaa">, <3, "gccaa">, <4, "ccatt">}
tactata.....ttac	{<0, "actga">, <1, "cattc">, <2, "tcata">, <3, "tatca">}
aa..a...a	{<0, "ataaa">, <1, "atatg">, <2, "atact">, <3, "atatt">, <4, "ataga">}
Actata	{}

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**Footnotes:**

8. sequence id 1 in accompanying sequence listing

Please amend Table 5 on page 15 as follows:

**TABLE 5****Indirection Table**

<b>Replet</b>	<b>Table Entries</b>
cgcgcgcgcg <sup>9</sup>	{<0, 19, null>, <0, 54, null>, <1, 17, null>, <2, 18, null>, <2, 39, null>, <2, 83, null>, <3, 15, null>, <3, 41, null>, <4, 27, null>, <4, 64, null>}
aaataa..aaa	{<0, 43, 0>, <1, 71, 1>, <2, 28, 2>, <3, 51, 3>, <4, 37, 4>}
acagg..ta.gcc..c	{<0, 64, 0>, <1, 55, 1>, <2, 49, 2>, <3, 25, 3>, <4, 48, 4>}
tactata.....ttac	{<0, 80, 0>, <1, 82, 2>, <2, 93, 2>, <3, 69, 3>}
aa..a...a	{<0, 43, 0>, <1, 71, 1>, <2, 28, 2>, <3, 51, 3>, <4, 37, 4>}
Actata	{<0, 81, null>, <1, 83, null>, <2, 94, null>, <3, 70, null>}

Footnotes:

9. sequence id 1 in accompanying sequence listing

Please amend Table 6 on page 16 as follows:

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**TABLE 6****Sequence backbones**

bseq 1: gctactggtaatagcagagagcgaccagt<sup>10</sup>  
bseq 2: cagaatcgactccagaaggagcggtgaggcg<sup>11</sup>  
bseq 3: acttgatcggttagctagacggagaagctccaaaac<sup>12</sup>  
bseq 4: caaattgtaggggagacctccacttacaagacgcttatgcaaggctac<sup>13</sup>  
bseq 5: cacgggacgaaagttaattcgtagggggctatgcggcgaaatccgagc<sup>14</sup>

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**Footnotes:**

- 10. sequence id 14 in accompanying sequence listing
- 11. sequence id 15 in accompanying sequence listing
- 12. sequence id 16 in accompanying sequence listing
- 13. sequence id 17 in accompanying sequence listing
- 14. sequence id 18 in accompanying sequence listing